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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,845	11/28/2000	Albert Maria Vodermayr	15258-050300US	6144

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EXAMINER

THOMPSON, CAMIE S

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 11/27/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/724,845

Applicant(s)

VODERMAYER ET AL.

Examiner

Camie S Thompson

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 11-22 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

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DETAILED ACTION

1. Applicant's amendment and accompanying remarks filed on September 13, 2002 have been acknowledged.
2. Examiner acknowledges cancelled claims 1-10 and newly added claims 11-22.
3. The objections to the drawings are withdrawn due to applicant's argument.
4. The objection to the specification is withdrawn due to applicant's argument.

Priority

5. The priority is not perfected. Although a copy of the priority document was sent, it is not a ribboned copy. Applicant is required to submit a ribboned copy of the priority document.

Claim Objections

5. Claim 13 is objected to because of the following informalities: It appears that the word "then" is misspelled and should be corrected to "than". Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 11-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. The term "substantially" in claims 11, 13 and 19-20 is a relative term that renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The specification does not provide a concise definition or explanation of how much more plastic is present in the second array than in the first array for claims 11 and 13.

Additionally, the specification does not provide a concise definition or explanation of how much smaller the diameter the fibers are of the first array than the fibers of the second and third array for claims 19 and 20.

Claim 12 is indefinite because of the term "like". The claim does not distinctly point out that the fiber cords are a bundle or a band. The examiner suggests using the term bundle or band alone. The phrase "may be" in claim 15 is a relative phrase that renders the claim indefinite. The phrase "may be" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Claim 15 does not distinctly point out that the plastic is taken up in amounts to at least 35%. In addition, the phrase "may be" does not add a positive recitation to the claim.

Claim 18 is rendered indefinite because the specification does not provide a definition or explanation as to what a pulverized duroplastic or pulverized inorganic material is.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 11-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Murphy et al., U.S. Patent Number 4,407,885.

Murphy discloses a composite article with a plurality of layers each including reinforcing fibers of materials selected from the group consisting of carbon and glass wherein the arrays of fibers extend in different directions, forming a web, mesh or grid as per instant claims 11 and 14 (see Figures 1-3 and column 6, lines 22-48). The reference also discloses that the plurality of layers is in a stacked assembly with the layers sequentially adjacent and in contrast with each other (see reference claim 2). In addition, Murphy discloses that at least each alternate of the layers in the stacked assembly include a thermoplastic fibrous material intermixed with the reinforcing fibrous material wherein the thermoplastic fibrous material is selected from a group consisting of heat softenable polyamide, polyacrylic, polyester, polyolefins; any derivative of the above mentioned groups and any mixtures thereof as per instant claims 11, 17 and 18 (see column 6, line 62-column 7, line 47). The Murphy reference also discloses that the plurality of layers being bonded together by the thermoplastic material is fused at junctures between the fibrous materials and a resin impregnating the plurality of layers as per instant claims 11 and 14 (see reference claim 2). Murphy discloses that the layers of fabric useful may have any desirable

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shape, size, form, configuration and include woven and non-woven fibers, yarns, threads, filaments and the like as per instant claim 12 (see column 6, lines 22-30). Additionally, Murphy discloses that certain layers may contain little or no thermoplastic fibrous material whereas an adjacent layer may comprise substantial amounts, for example up to 60% (by volume) or higher of thermoplastic material as per instant claims 13 and 15 (see column 7, lines 58-65).

11. Claims 11, 13 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee et al., U.S. Patent No. 5,401,564.

Lee discloses a composite article with a plurality of fabric layers incorporating glass rovings with graphite tows and a thermoplastic resin matrix as per instant claims 11 and 17-18 (see reference claims 1-2). The reference also discloses that the composite is more flexible along the first axis parallel to the plurality of the glass weft elements than along the second axis parallel to the second plurality of the graphite warp elements as per instant claim 11 (see reference claim 1). Additionally, Lee discloses that the fabric layers form a mesh, web or grid as per instant claims 11 and 13 (see Figure 2 and reference claims 1 and 2).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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12. Claims 11 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al., U.S. Patent Number 4,407,885.

Murphy discloses a composite article with a plurality of layers each including reinforcing fibers of materials selected from the group consisting of carbon and glass wherein the arrays of fibers extend in different directions, forming a web, mesh or grid as per instant claim 11 (see Figures 1-3 and column 6, lines 22-48). Although the reference does not specifically disclose that the fibers of the first array are carbon and the fibers of the second and third arrays consists of glass as per instant claims 21 and 22, the reference does disclose that the fibers can be selected from the group consisting of carbon and glass. It would have been obvious to one of ordinary skill in the art to use carbon fibers in the first array and glass fibers in the second and third arrays to promote secure bonding action by the thermoplastic fibrous material as shown by the reference in column 11, lines 19-36. Murphy does not disclose the diameter of the fibers in the first, second and third arrays as per instant claims 19 and 20. Discovery of optimum values of a result effective variable involves only routine skill in the art in re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA). It would have been obvious to one of ordinary skill in the art to have the fibers of the first array have a smaller diameter than the fibers of the second and third array in order to promote bonding action by the thermoplastic material so as to result in a minimal amount of thermoplastic fibrous material within the composite as shown by Murphy in column 8, lines 10-18.

13. The prior art made of record and not relied upon *Understanding Textiles, Fifth Edition* provides disclosure on cord yarns.

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Response to Arguments

14. Applicant's arguments filed September 13, 2002 have been fully considered but they are not persuasive. Applicant argues that the layers of the Murphy reference are not comprised of fiber cords. Murphy discloses that the fibers can be yarns or threads, which can be made up of fiber cords. Applicant has not been specific because yarns can be cords. Applicant argues that the claimed invention has distinctive properties of the cords because of the different plastic contents. Applicant did not claim properties of the cords. The Murphy reference provides the disclosure of different thermoplastic content as well as the motivation for the different plastic content in the different layers. Applicant has failed to provide arguments that would indicate that the claimed invention is clearly distinct and patentable from the prior art of Murphy et al., or Lee et al..

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (703) 305-4488. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly, can be reached at (703) 308-0449. The fax phone numbers for the Group are (703) 872-9310 {before finals} and (703) 872-9311 {after finals}.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

CYNTHIA H. KELLY
SUPERVISOR, ART EXAMINER
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